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Wage flexibility in the new European Union members: How different form the "old" members?

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Introduction

The collapse of communist regimes in the beginning of 1990s has widened the scope of analyses explaining the relation between unemployment and wages. The new European Union members in Central and Eastern Europe have faced fast transition from centrally planned into market economies. This process has also involved big changes on their labour markets. Despite large scale structural changes and fast economic growth high unemployment remains one of the biggest challenges for the new members.

The functioning of labour markets has a crucial role in restructuring the economy and eliminating inefficient labour allocation inherited from the socialist era. The importance of labour market flexibility even increases with the membership of the EU and eventually the EMU. The single currency reduces the variety of policy tools available to the members and demands extra flexibility of the local markets to absorb adverse shocks.

Two different aspects can be regarded in relation with labour market flexibility – the market can react to shocks by changes in quantity or by changes in prices or both. Several studies have shown low intra- and international labour mobility in the EU. Therefore, labour mobility cannot be regarded as an effective source of economic adjustment (Patterson and Amati, 1998). Moreover, the widespread use of transition periods for opening up their labour markets by the "old" EU member states implies that the free movement of labour only constitutes marginally to labour market flexibility. Therefore we focus on the flexibility of domestic wages i. e. the price of labour. Wage flexibility is usually regarded as an effective and efficient way to absorb asymmetric shocks.

Wage flexibility has been empirically tested in different specifications using a sample of OECD countries. Over the last decade this research has been extended to the transition countries. There are by now several studies empirically analyzing wage flexibility in the Central and Eastern European countries.

However, the approach of regional and micro level flexibility dominates in the existing empirical tests. Many studies have found that regional wages tend to respond to local labour market conditions. Kertesi and Köllő (1997) e. g. estimated a "wage curve" on Hungarian micro level data and found the relations between the workers' remuneration and the state of the labour market to be very similar to those observed in developed countries. The similarity of the wage curve between transition countries and developed countries was also concluded by Blanchflower (2000) for 11 Eastern European countries using household survey data. Iara and Traistaru (2003) found empirical evidence for a negative relation between real wages and unemployment in Bulgaria, Hungary and Poland using regional data, while the unemployment elasticity of pay for Romania was not

statistically significant. The result was confirmed for Poland by Yamaguchi (2005). His estimates also showed that wages are less elastic in a high-unemployment/low wage environment. The latter conclusion was confirmed by Galuk and Münich (2003) for the Czech Republic. Czech real wages adjust to changes in local employment in districts with low unemployment rates but in regions with high unemployment the elasticity of wages is not present.

Radziwiłł and Walewski (2003) investigated the overall labour market elasticity in six EU candidate countries 1993-2002. They found negative and statistically significant relations between domestic unit labour costs and the change in the unemployment rate in only three countries – Lithuania, Poland and the Slovak Republic. In the other countries – in the Czech Republic, Hungary and Latvia – labour markets seem to be remarkably inflexible. Babetskii (2006) tests real wage elasticities in eight CEECs using time-series and pooled estimates. He finds limited wage flexibility in three countries i. e. the Czech Republic, Lithuania and the Slovak Republic. The wages in Estonia, Hungary, Poland, Latvia and Slovenia turned out to be inflexible. An interesting finding of Babetskii (2006) is that wage flexibility in all the CEECs in the period 2000-2004 is lower than in the period 1995-1999 and that the wage elasticity have become insignificantly different form zero in a number of CEECs.

Summing up (see

Table 1), in general the previous research has shown different regional elasticities of wages in several CEECs. The aggregate responsiveness of wages to the labour market conditions found less confirmation in a couple of existing studies.

Table 1. Overview of existing research on wage flexibility in the Big CEECs.

The goal of our paper is to estimate macroeconomic wage flexibility in four Central and Eastern European countries (Big CEECs) – the Czech Republic, Hungary, Poland and the Slovak Republic – and compare it with the "old" EU members[1]. We use the bargaining-augmented Phillips curve model developed by Blanchard and Katz (1999). In regression analysis annual data is used to take into account the long-term phenomenon of wage flexibility. We also attempt to link differences in aggregate wage flexibility to differences in the underlying labour market characteristics and institutions.

The rest of the paper is organized as follows. In the next section we compare the labour market developments in the countries and country groups. The differences and similarities in the institutional setting are analysed in the third section. The fourth section reports regression results for

[1] We use a benchmark sample of six EU countries – Belgium, France, Germany, Italy, the Netherlands and the United Kingdom (EU6).

the wage curves for the Big CEECs and the EU6. The study ends with conclusions and some policy suggestions for the governments of the new EU members and candidate countries.

2. Labour market developments in the Big CEECs

In the beginning of the 1990s the economies of several countries behind the iron curtain were drastically reformed. Price liberalisation and strict monetary policy resulted in a sharp decline in output. Subsidies for enterprises were cut and this together with privatisation led to abrupt corrections to the ineffective labour allocation. As a result unemployment rates rose sharply and became one of the major problems for the governments in these countries until today. Figure 1 shows the evolution of unemployment in the Big CEECs compared with the EU6. By average the unemployment rate of the Big CEECs has exceeded the unemployment rate of the EU6 over the last 15 years. After the first dramatical political and economic changes, the rate of unemployment started to fall in the second half of the 1990s. However, after the Russian crisis at the end of 1998 and, to a lesser extent, due to the Czech currency crises in 1997, unemployment sharply increased again by the end of the 1990s. While the economic growth has recovered after the Russian crisis, unemployment has remained high in the two-digit zone.

Figure 1. Unemployment in the Big CEECs and EU6.

The only Big CEEC that shows a declining trend in the unemployment rate throughout the 1990s is Hungary (see Figure 2). However, in the beginning of the 21st century also Hungarian unemployment has increased, but it is still well below 10%. The other country with relatively low unemployment rate is the Czech Republic. The currency and stock market crises of 1997 caused a dramatic depression with negative economic growth figures for two years. This resulted in an increased unemployment rate, which afterwards remained on that higher level. Poland and Slovakia have struggled with very high unemployment throughout the whole period. Also for those countries the jump after 1998 is noticeable. Since then the countries have faced unemployment between 15 and 20%. The jump itself can be explained by the abovementioned crisis. But the persistent high level points to institutional determinants and/or lacking structural reforms.

Figure 2. Unemployment (right scale) and employment (left scale) rate in the Big CEECs.

Figure 2 also shows the evolution of the employment rate measured as the proportion of employed from the working age population in the Big CEECs. The decline in employment coincides with the increase in unemployment in the Czech and Slovak Republics which can be the result of the existence of a relatively constant amount of economically active people in the economies. Poland

has faced during the last five years a higher employment rate and a unemployment rate over 15% but declining. Those trends imply growing economic activity in the country and lagging job-creation.

The employment levels are still under the levels of the beginning of the 1990s in the Czech Republic and Poland (see Figure 3). Despite the Slovak Republic has sustained a high employment level this in 1994, the high unemployment rates imply that the economy is still functioning below the pre-transition volumes and the structural changes in labour market are on the way.

Figure 3. Employment in the Big CEECs 1993-2005.

The real wages have risen since the beginning of the 21st century in the Czech Republic and Hungary (see Figure 4). The Polish real wages increased throughout the second half of 1990s and have slowly declined since 2001 and the Slovak indicator does not show clear trend in its movements.

Figure 4. Real wages and the real wage to productivity ratio in the Big CEECs, 1995=100.

From the competitive point of view the real wage has to be compared to the productivity. The real wages have generally not outstretched the growth in productivity. However, the increase in real wages outweighed the increase in productivity in Poland and several years in the Slovak Republic in the late 1990s. So the wage dynamics can partly be the cause behind the high rates of unemployment in those countries.

Despite the remarkable speed in overall economic transformation labour market transition is not yet complete in the Big CEECs. Despite good growth performance the countries face high unemployment rates and relatively low employment rates which gives reason to suspect market distortions in effect.

3. Labour market institutions in the Big CEECs

In the previous section we showed that labour market performance in the Big CEECs is still characterised by relatively high levels of unemployment and low employment rates. One reason for the relatively poor labour market performance in those countries can be that their labour market institutions are supportive to low labour market equilibria, especially after the big shocks that have hit these economies. As it is well known, the combination of shocks and institutions is often put forward as an explanation for the poor labour market performance in a number of European

countries (Blanchard and Katz, 1999). In this section we therefore analyse various aspects of the institutional settings of the labour market in Central Europe and the old core European countries.

Before we turn to the labour markets it is useful to bring under attention some general characteristics of the CEECs. This is done in Table 2. In terms of GDP the Big CEECs represent a small part of the European economy. In our sample the Big CEECs constitute 4.3% of the total GDP of the sample. Indeed, except Poland, the countries have small populations however their level of development lags also still largely behind the old EU countries. As Table 2 shows, average GDP per capita in the Big CEECs is about one fifth of the old EU members. Even the Czech Republic, which is the most developed CEEC judged by GDP per capita is still only at 31% of the level of the least developed EU6 country (Italy). Another distinguishing characteristic is the importance of the agricultural sector. The average share of agriculture in GDP is 2.5 times higher in the CEECs than in the EU6. Again the agricultural sector in the Czech Republic (which has the lowest share of agriculture of the big CEECs) is 40% higher than in Italy (which has the highest share of agriculture in the EU6).

Migration is one socio-economical determinant that influences the labour market situation. Positive net-migration usually increases the supply of labour and restricts the rise of wages. Negative net-migration, on the other hand, adds in the ageing societies additional pressure on the fiscal stance and inflation. Table 2 shows that the migration is relatively volatile characteristic in all countries. The Big CEECs faced negative crude rates of net-migration in the beginning of 1990s. A decade later the number of people leaving their country has declined and in 2004 only Poland had a negative crude rate of net-migration. In the other Big CEECs more people come to the country than leave the country and that results in small positive net-migration. The EU6 countries have been importers of the people with the average crude rate of net-migration around 2-3%. However the changing public opinion on migration starts to influence also the migration statistics and e.g. in 2004 the Netherlands had small negative crude rate of net-migration.

Table 2. General economic conditions in Big CEECs and EU6.

The last characteristic that is considered in Table 2 is the share of the shadow economy in GDP. A well developed shadow economy is often a sign of a rigid labour market, as costly and rigid labour market regulations and high tawes on labour will shift more and more activities away from the official labour market into the unofficial sector. Here too the distinction between the Big CEECs and the EU6 is less relevant. Belgium, Hungary, Italy and Poland are characterised by a flourishing unofficial economy while the share of the shadow economy in total GDP is relatively low in the Netherlands and the UK.

While the general structural characteristics of the economy influence the outcome of labour markets only indirectly, labour market institutions can have a more direct effect on the working of the labour market. They can be divided into three subcategories:

1) employment protection legislation;

2) wage setting institutions;

3) employment benefit system, taxation of wages and active labour market policies;

Employment protection legislation reflects the restrictions to employers to dismiss workers and the required compensation mechanisms in case of dismissals. The strictness of those regulations can increase the cost of hiring workers, reduce the flow of vacancies and, therefore, result in higher levels of unemployment or lower levels of employment.

The OECD has developed a methodology for the construction of an index of employment protection. The scale runs from 0 to 6 with the strictness of employment protection legislation. It covers regular, temporary employment and collective dismissals. In our analysis we concentrate on the first two aspects and a compound index based on them. Table 3 shows the employment protection legislation index for the Big CEECs and EU6. The employees with a regular contract are more protected against dismissal in the Big CEECs than EU6. However, the new members as well as the old ones are far from a homogeneous group, the index reaching from 1.9 in Hungary to 3.5 in the Slovak Republic and from 1.1 in the UK to 3.1 in the Netherlands. In the case of temporary employment, employers in the Big CEECs face considerably more flexibility than in the six "old" EU members.

Table 3. Employment Protection Legislation (EPL) in Big CEECs and EU6[1].

Judged by the overall index (which is a simple average of the indices for regular and temporary employment), the Big CEECs are more flexible than the EU6 countries with respect to overall employment protection. They are also more homogeneous. Employment protection legislation in the Big CEECs is somewhere in the middle of that of the group of EU6 which is characterised by wide variations. Further, some tendency for convergence in employment protection legislation is noticeable. In countries with strict protection like the Slovak Republic, Germany and Italy, there is a tendency for more flexibility (mainly through less protection of temporary workers), while in countries with low protection there is a tendency for increase.

Wage setting institutions are important in wage formation processes and can therefore affect the employment throughout the economy. Trade unions play a significant role in wage bargaining in most of the European countries. This also holds for the former communist countries. The power and

influence of labour unions in wage bargaining can be measured by indicators such as union density, union coverage and wage bargaining centralisation and coordination.

Table 4. Trade unions in the Big CEECs and EU6.

The union density has sharply decreased during the 1990s in the four CEECs considered and was by 2000 comparable to that of the EU6, with the exception of Belgium that is still highly unionised (Table 4). Union coverage (the share of workers whose wages and working conditions are determined by union bargaining even when they are not union members), however, is significantly lower than in the old EU countries except the United Kingdom. Collective agreements cover over 80% of the labour force in the other five EU countries as compared to only 36% in the Big CEECs.

As argued by Calmfos and Driffill (1988), the outcomes of wage bargaining may also depend on the level at which wage bargaining takes place with bargaining at the intermediate level of centralisation leading to a higher degree of wage rigidity. With the exception of the UK in the EU countries, wage bargaining predominantly takes place at the industry, i.e. the intermediate level of bargaining (Ederveen and Thissen, 2004). The average centralization in the EU6 is considerably higher than in the Big CEECs where company or plant level negotiations dominate.

Besides the degree of centralisation, the aspect of coordination of wage bargaining is an important institutional characteristic of the labour market (Soskice, 1990). In this particular context, coordination refers to the extent to which wage bargaining takes into account the effects of wage agreements on the economy as a whole (internalisation of these effects). While centralised bargaining tends to result in such internalisation more easily, it is by no means guaranteed to do so. In the case of centralised wage bargaining different trade unions may, for example, try to get the better of each other (cf. the political allegiance or "pillarisation" of trade unions in Belgium), or it may be the case that central agreements are not respected at the lower levels, which may give rise to wage drift. In a decentralised system, coordination may be enhanced by the presence of a pace-setting industry, which leads the way for other sectors (e.g. the metal industry in Germany), or by various forms of government intervention in the wage bargaining process. In Belgium, for example, the government has the right to invoke the law in the retention of competitiveness (1996) and, in principle, it may also intervene in the wage formation process if wage agreements exceed a so-called wage standard.

With respect to coordination the four CEECs form a close group with predominantly fragmented company or plant level bargaining and little or no coordination by upper-level associations, or fragmented industry and company-level bargaining with little or no pattern-setting. In the EU6 the picture is more diverse, with more informal coordination or coordination by peak confederations

and/or government intervention in the wage formation process (the exception being France and again the UK with little or no coordination).

The CEECs' policy-mix to support the unemployed is very different from that of the EU6 (see Table 5 and Table 6). Both groups of countries apply passive measures such as unemployment benefits as well as active policies such as training, job assistance, public employment etc.

Table 5. Spending on active labour market policies.

Spending on active labour market policies is low in the Big CEECs, the average being less than 0.5% of GDP and close to 10% of GDP per capita per unemployed person (see Table 5). In the EU6 spending on active labour market policies is on average much higher (both as a % of GDP and as a % of GDP per capita per unemployed person). Notable exceptions are Hungary, Italy and the United Kingdom.[2]

The duration of unemployment benefits is under one year in the Big CEECs except for Poland (see Table 6). In most of the EU6 countries except in Italy and the United Kingdom unemployed persons are entitled for benefits longer then one year with the extreme of Belgium where the benefits can be paid without any time limits. The generosity of an unemployment benefit system may create incentives to remain unemployed for a longer time. Table 6 shows net replacement rates for the Big CEECs and EU6 for different family types as a percentage of the average wage of a production worker. In the Big CEECs the net replacement rates tend to be lower than in the EU6. However the diversity prevails in both groups, so that no firm conclusions can be drawn. Again the United Kingdom is atypical for the group of EU6 countries and is more in line with the Big CEECs.

Table 6. Net Replacement Rates for three family types, at 100% APW[1] and duration of benefits.

Last but not least, we turn our attention to the tax levels as an important institutional characteristic of the labour market. Riboud et al. (2002) and Cazes (2002) have already drawn attention to the high tax levels on labour for the CEECs. Indeed as Table 7 shows, average and marginal tax rates on wages in the Big CEECs are on average not very much different from those of the EU6. Wages are taxed at comparable rates and cross-country variability rather than cross-group differences can be observed.

Table 7. Average and marginal tax rates in the Big CEECs and EU6, 2005.

[2] The different evolution of active spending (as % of GDP) and active spending per unemployed (as % of GDP per capita) in some countries can be explained by the evolution of unemployment rate and/or the activity rate in the countries envolved. This can be shown by the following relationship:

$$s = s_u \cdot u \cdot a$$

With s: active spending (as % of GDP), s_u: active spending per unemployed (as a % of GDP per capita), u: unemployment rate (in % of active population, a: activity rate (as a % of population).

The United Kingdom is the country with the lowest average and marginal tax rates among the ten countries considered in Table 7. Belgium (average tax rate) and Hungary (marginal tax rate) qualify as the countries that most heavily tax wages.

Summing up, we evaluate six institutional aspects of labour market using weights of individual country variables in total variable (see Table 8). In the first step we found average value of over years and different characteristics under one broader institution, only for benefit generosity the average value the net replacement rates and duration were firstly weighted and then the weights averaged for one combined figure. The weights are given in per cents. The last row of the table averages all omitted weights up and gives overall assessment on institutional setting of labour markets in the Big CEEC and EU6 countries.

Table 8. Overview of labour market institutions in the Big CEECs and EU6.

As intuitively expected from the single institution analysis the United Kingdom has by far the most flexible institutional framework of labour market in our group. Conservative continental European countries e.g. Belgium, France and Germany have the most restrictive institutions. The Big CEECs have adopted institutional package broadly similar to the developed EU countries. Labour market institutions in the Big CEECs except in the Slovak Republic are rather on the flexible side, however they are slightly more rigid than in the UK.

4. Regression analysis

In this section we continue with the wage equations for the two country groups. The theoretical wage curve suggests a negative relationship between the level of wages and the unemployment rate. Empirical findings (for example Plasmans et al. (2002)) suggest a *Phillips curve* relationship between wages and unemployment, i.e. a negative relationship between the rate of change of wages and the unemployment rate. We use the idea of Blanchard and Katz (1999) who reconcile these theoretical and empirical specifications of the wages-unemployment relationship by interpreting the reservation wage as depending on productivity and lagged wages. This results in the following specification:

$$\Delta w_t = c_w + \Delta pc_t^e + \varphi(w_{t-1} - pc_{t-1} - z_{t-1}) + \beta u_t + \delta \Delta z_t + \varepsilon_t \quad (1)$$

where w and pc are the logarithms of the wage and (consumption) price level, ^{e} denotes expectations, u is the unemployment rate and z is the logarithmic labour productivity. Δx stands for a growth rate. Wage growth is determined by inflation expectations, the level of the unemployment

rate (the Phillips curve effect), the change in productivity and an 'error correction' term, $(w_{t-1} - pc_{t-1} - z_{t-1})$, implying an adjustment of real wages to (trend) labour productivity over time. In fact real wages adjust to marginal productivity, but assuming a Cobb-Douglas production function, marginal productivity $(\partial Y_t / \partial L_t)$ equals average productivity $(Y_t / L_t = z_t)$. Inflation expectations are assumed to be a convex combination of current and lagged inflation (adaptive expectations):

$$(2) \qquad \Delta pc_t^e = \alpha \Delta pc_t + (1-\alpha)\Delta pc_{t-1} = \alpha \Delta\Delta pc_t + \Delta pc_{t-1}$$

The closer α to one, the larger the influence of current inflation or institutionalized indexation (α=1 is (contemporaneous) full indexation) and, consequently, a small effect of lagged inflation. Substituting (2) in (1) and adding the difference between consumer and output price inflation (to test for a terms of trade effect) and changes in the unemployment rate (to test for possible hysteresis effects), the estimable regression specification takes the following form:

$$(3) \qquad \Delta(w_t - pc_{t-1}) = c_w + \alpha \Delta\Delta pc_t + \beta u_t + \gamma \Delta u_t + \varphi(w_{t-1} - pc_{t-1} - z_{t-1}) + \delta \Delta z_t + \theta(\Delta p_t - \Delta pc_t) + \varepsilon_t$$

In this specific setting with adaptive expectations, the impact of unemployment on nominal (Δw_t) and real ($\Delta(w_t - pc_{t-1})$) wage growth is interchangeable, as can be seen from (3) and (1). A specification along these lines is also estimated in OECD (1997) and Lauer (1999). A theoretical justification for this "bargaining-augmented Phillips curve" can already be found in Knoester and Van der Windt (1987). Wage growth in the private sector (Δw) is shown to be the outcome of negotiations between unions and employers, more specifically a weighted average of wage growth claims of unions and wage growth offers of employers. Unions' claims are assumed to reflect compensation for changes in consumer prices (Δpc), labour productivity growth in the private sector (Δz). Employers' offers are derived from marginal productivity conditions for profit maximising firms. The wage offers are shown to include compensation for changes in *output prices* (Δp) and changes in labour productivity (Δz). Finally, the Phillips curve effect is introduced by the assumption that the respective bargaining power of unions and employers depend on the labour market situation, reflected by the unemployment rate (u).

In our analysis we are particularly interested in the coefficients for unemployment rate that we interpret as a measure of wage flexibility. Equation (3) is estimated for unbalanced pooled data using OLS. To reflect the heterogeneity in the wage flexibility in the selected countries we use country specific slope coefficients. The sample consists of annual observations for the period 1990-2005 and the variables are taken from the OECD Economic Outlook Database. *w, pc, p* and *z* are

expressed in logarithms; the unemployment rate is expressed in levels (as a decimal). For the construction of the error correction term trend labour productivity (based on a Hodrick-Prescott filter) is used rather than actually measured productivity.

The regression results are shown in Table 9. The coefficients of the wage equations take the expected signs and changes in the unemployment rate turned out to be insignificant. The inflation affects wages more in the CEECs which can be explained also the higher level of price inflation in those countries. Changes in productivity have significant effect on wages in both country groups.

The differences between the Big CEECs find evidence also in case of wage flexibility. The wages respond to the unemployment at highest rate of 1.05 in Hungary. Hungary has also the least regulative employment laws and least generous unemployment benefit system among the Big CEECs.

The wages are totally inflexible in the Slovak Republic. However the institutional framework can not explain fully the complete inflexibility of Slovak wages – the labour market setting in the country is not more rigid than in ordinary EU country. The labour protection law is comparable to Italy and Netherlands and more flexible than in Germany and France. Also the union coverage and average tax wedge are lower than in the EU6 countries except the United Kingdom. The reason may lie in more overall institutions and the path of transition generally.

Among the EU6 countries the Netherlands and the United Kingdom form the most flexible group and for the CEECs the Czech Republic has a similar flexibility with the coefficient of 0.69. However in terms of institutional setting the United Kingdom has by far the most flexible labour market among the three countries.

Table 9. Wage equations, dependent variable $\Delta(w_t - pc_{t-1})$.

The 1% increase of Polish unemployment rate, decreases the wages by 0.43% which is close to the rest of the EU6 countries. Still in comparison to the other four EU6 countries Polish institutions suggest rather higher flexibility for example in case of employment protection legislation, trade unions centralisation and coordination, unemployment benefits and tax level. Poland and the Slovak Republic have attracted less foreign direct investment, as the foreign investors consider the business environment of the two countries less favourable. The big share of people active in agriculture may be interpreted as the result of slow pace of structural reforms in Poland. The Slovak Republic has also very big employment in government sector that exceeds the indicator of developed countries as Belgium and Italy (Ederveen and Thissen, 2004).

But the countries with more flexible labour market institutions as the Czech Republic, Hungary and the United Kingdom have also more elastic wages. Still the level of employment protection, the role of trade unions and generosity of unemployment benefit system are quite high in Netherlands with high flexibility in wages.

However our results do not coincide completely with the previous studies. Contrary to Radziwiłł and Walewski (2003) we find flexibility in the Czech Republic and Hungary and total rigidity in the Slovak Republic. The latter finding contradicts also Babetskii (2006) results. Hungary has the highest wage flexibility in our sample but the abovementioned studies find no responsiveness in wages to the changes in unemployment. Only in case of Poland the results are relatively comparable.

In general we can notice the group of countries with flexible labour markets as Hungary, Netherlands and the United Kingdom. On the other hand Poland, the Slovak Republic, France and Italy form the group of the most inflexible countries. So our regression results coincide broadly with the institutional flexibility.

5. Conclusions

The political and economical change in the beginning of 1990s brought also high unemployment and low employment to the Central and Eastern European countries. While the depressed economy of the CEECs has recovered and the economic growth exceeds the average growth of "old" EU members, the high unemployment rates remain a problem. Therefore we can conclude that labour markets still face some tackles in their functioning.

The labour market institutions have often been seen as one measure to influence the labour market performance. In this respect we cannot make clear difference between the CEECs and the EU6 countries. The Big CEECs have designed their labour market institutions similar to the "old" EU member states. The UK has the most flexible institutional setting. The institutions in the Big CEECs are more rigid than those of the UK but more flexible than in continental Europe.

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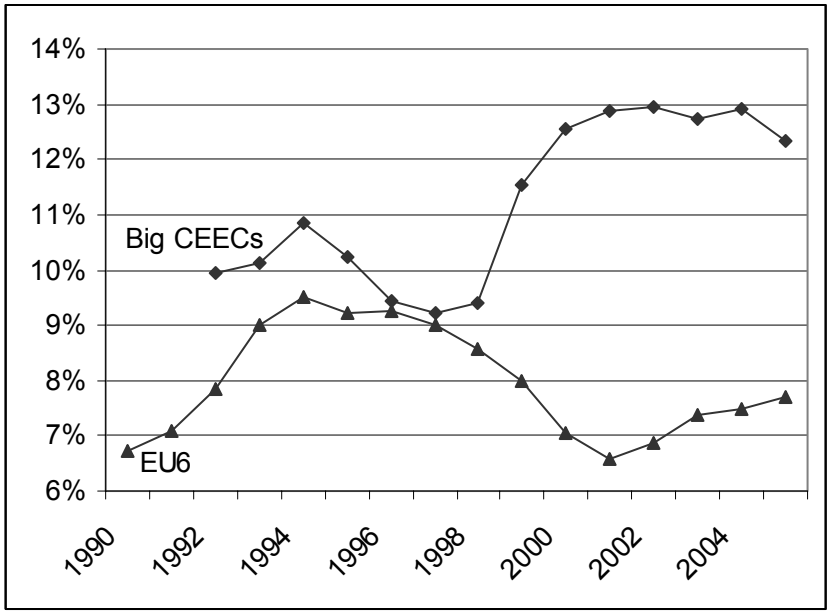
Table 10. Overview of existing research on wage flexibility in the Big CEECs.

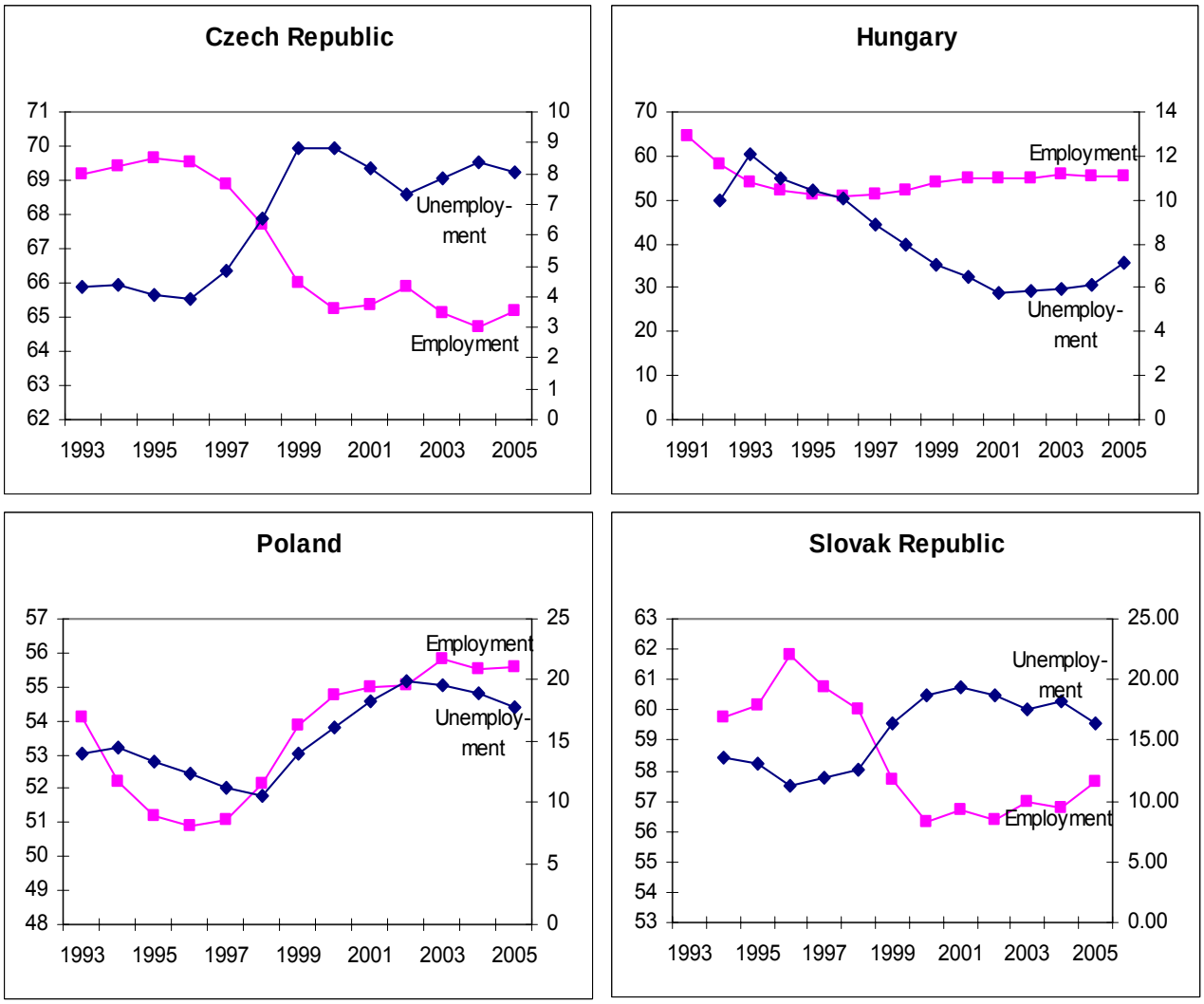
Country	Period	Authors	Conclusion	Remarks
Czech Republic	1996-2001	Galuščák and Münich (2003)	Wages adjust to changes in local unemployment in districts with low unemployment rates, a low share of public sector and for the short-term unemployed. Wages are rigid in districts with high unemployment rates and for the long-term unemployed.	Based on microdata
	1992, 1994-1997	Blanchflower (2000)	Significant limited wage elasticity of -0.02.	Based on microdata
	Quarterly data 1993-2002	Radziwiłł and Walewski (2003)	No responsiveness of domestic unit labour costs to changes in unemployment was noted.	
	Quarterly data 1995-2004	Babetskii (2006)	Wage flexibility found for the individual time-series and pooled dataset for the period 1995-99.	
Hungary	1989, 1992-1995	Kertesi and Köllo (1997)	Wage curve similar to the mature market economies exists in Hungary	Based on microdata
	1990-1997	Blanchflower (2000)	Significant wage elasticity of -0.05.	Based on microdata
	1993	Blanchflower (2000)	Significant wage elasticity of -0.4.	Based on microdata
	Quarterly data 1993-2002	Radziwiłł and Walewski (2003)	No responsiveness of domestic unit labour costs to changes in unemployment was noted.	
	1992-1999	Iara and Traistaru (2003)	Regional real earnings adjust to the local unemployment levels with a delay of two years.	Based on microdata
	Quarterly data 1995-2004	Babetskii (2006)	Wage flexibility found only for the pooled dataset and the period 1995-99.	
Poland	1991-1997	Blanchflower (2000)	Significant wage elasticity of -0.1.	Based on microdata
	1993	Blanchflower (2000)	Significant wage elasticity of -0.2.	Based on microdata
	1992-1999	Iara and Traistaru (2003)	Regional real earnings adjust to the local unemployment levels with a delay of one year.	Based on microdata
	Quarterly data 1993-2002	Radziwiłł and Walewski (2003)	Small responsiveness of domestic unit labour costs to changes in unemployment was noted at the 10% probability level.	
	1995-2002	Yamaguchi (2005)	Wages are less elastic in a high-unemployment/low wage environment	Based on microdata
	Quarterly data 1995-2004	Babetskii (2006)	Wage flexibility found only for the pooled dataset and the period 1995-99.	
Slovak Republic	1995	Blanchflower (2000)	Significant wage elasticity of -0.05.	Based on microdata
	1993	Blanchflower (2000)	Significant wage elasticity of -0.2.	Based on microdata
	Quarterly data 1993-2002	Radziwiłł and Walewski (2003)	Domestic unit labour costs react on the changes in unemployment.	
	Quarterly data 1995-2004	Babetskii (2006)	Wage flexibility found for the individual time series and pooled dataset for the period 1995-99.	

Figure 5. Unemployment in the Big CEECs and EU6.



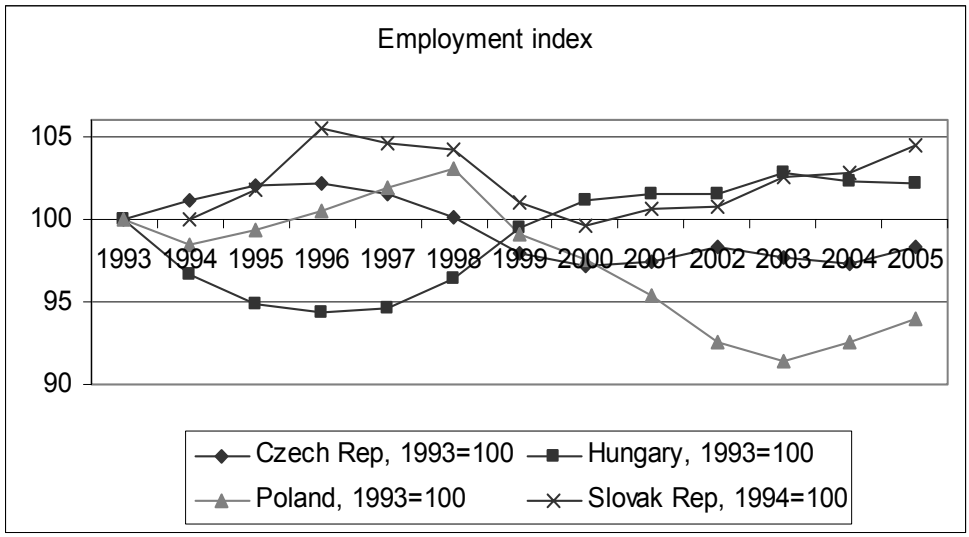
Source: OECD Economic Outlook database.

Figure 6. Unemployment (right scale) and employment (left scale) rate in the Big CEECs.



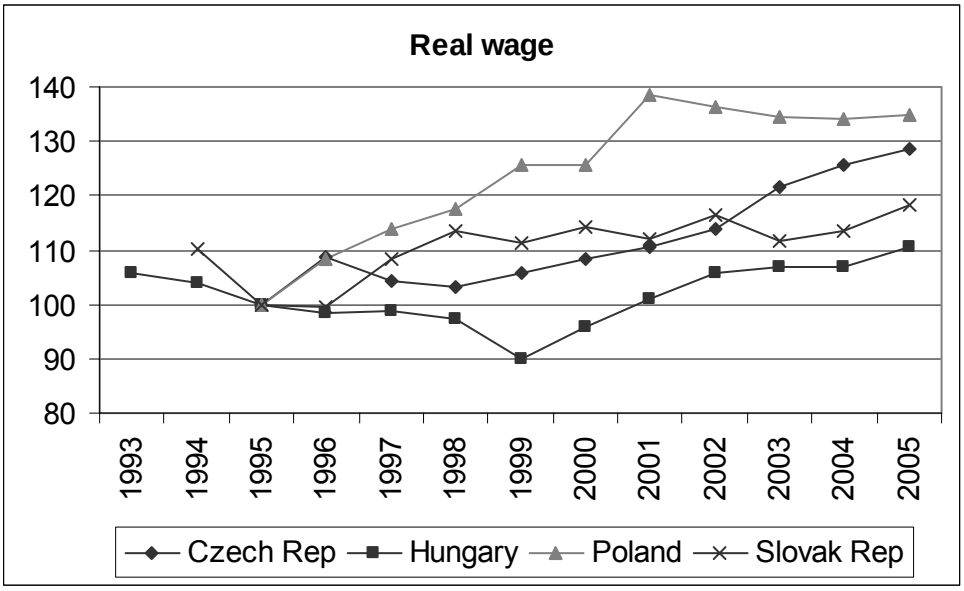
Source: OECD Economic Outlook database.

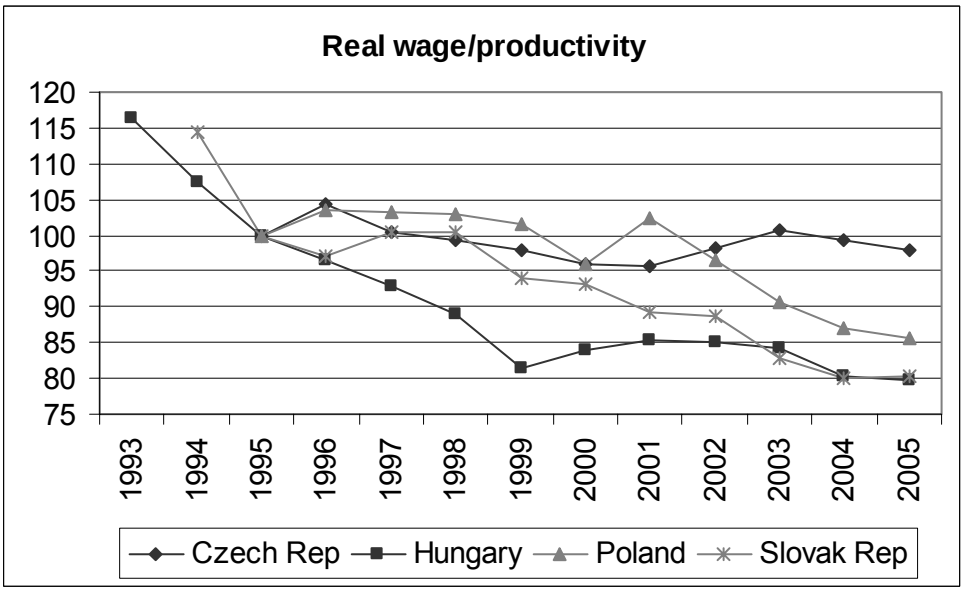
Figure 7. Employment in the Big CEECs 1993-2005.



Source: OECD Economic Outlook database.

Figure 8. Real wages and the real wage to productivity ratio in the Big CEECs, 1995=100.





Source: OECD Economic Outlook database.

Table 11. General economic conditions in Big CEECs and EU6.

	GDP[1]	GDP per capita[2]	Gross value added in agriculture[3]	Crude rate of net migration[4]		Unofficial economy[5]
				2000	2004	
Czech R	54404	5300	4.49	0.6	1.8	18.4
Hungary	52753	5100	5.59	1.6	1.8	24.4
Poland	160654	4200	6.39	-10.7	-0.2	27.4
Slovak R	22343	4200	7.51	-4.1	0.5	18.3
Big CEECs	*72538*	*4700*	*5.99*	*-3.2*	*1.0*	*22.1*
Belgium	267141	25500	1.42	1.3	3.4	22.2
France	1485067	23700	2.84	1.7	1.7	15.2
Germany	2200061	26700	1.32	2	1	16.0
Italy	976962	16700	3.23	1	9.6	27.1
Netherlands	414017	25400	3.03	3.6	-0.6	13.1
U.K.	1147161	19000	1.53	2.4	3.4	12.7
EU6	*1081735*	*22833*	*2.23*	*2.0*	*3.1*	*17.7*
All	*678056*	*15580*	*3.74*	*-0.1*	*2.2*	*19.5*

Notes: [1] – 2005, millions of euro at 1995 prices and exchange rates; [2] – 2005, euros per inhabitant at 1995 prices and exchange rates; [3] – as a % of total gross value added; [4] – per 1000 inhabitants; [5] – Data for Big CEECs is the average over 2000-2001 by DYMIMIC method, for EU6 average over 1999-2000 by currency demand method, see Schneider (2003).
Source: Eurostat and Schneider (2003).

Table 12. Employment Protection Legislation (EPL) in Big CEECs and EU6[1].

	Regular employment		Temporary employment		Overall EPL	
	late 1990s	2003	late 1990s	2003	late 1990s	2003
Czech Republic	3.3	3.3	0.5	0.5	1.9	1.9
Hungary	1.9	1.9	0.6	1.1	1.3	1.5
Poland	2.2	2.2	0.8	1.3	1.5	1.7
Slovak Republic	3.6	3.5	1.1	0.4	2.4	1.9
Big CEECs	***2.8***	***2.7***	***0.8***	***0.8***	***1.8***	***1.8***
Belgium	1.7	1.7	2.6	2.6	2.2	2.2
France	2.3	2.5	3.6	3.6	3.0	3.0
Germany	2.7	2.7	2.3	1.8	2.5	2.2
Italy	1.8	1.8	3.6	2.1	2.7	1.9
Netherlands	3.1	3.1	1.2	1.2	2.1	2.1
U.K.	0.9	1.1	0.3	0.4	0.6	0.7
EU6	***2.1***	***2.2***	***2.3***	***2.0***	***2.2***	***2.0***
All	***2.4***	***2.4***	***1.7***	***1.5***	***2.0***	***1.9***

Note: [1] – Index, scale from 0 (lowest) to 6 (highest)EPL. The EPL Version I of OECD is used for overall index.
Source: OECD (2004) Employment Outlook 2004.

Table 13. Trade unions in the Big CEECs and EU6.

	Union density		Union coverage	Centralisation[1]	Coordination[2]
	1990	2000	late 1990s		1995-2000
Czech Republic	46	27	25+	1	1
Hungary	63	20	30+	1	1
Poland	33	15	40+	1	1
Slovak Republic	57	36	50+	2	2
Big CEECs	***49.8***	***24.5***	***36.3+***	***1.3***	***1.3***
Belgium	54	56	95+	3	4.5
France	10	10	90+	2	2
Germany	31	25	68+	3	4
Italy	39	35	80+	2	4
Netherlands	25	23	80+	3	4
U.K.	39	31	30+	1	1
EU6	***33.0***	***30.0***	***73.8+***	***2.3***	***3.3***
All	***39.7***	***27.8***	***58.8+***	***1.9***	***2.5***

Source: OECD (2004) Employment Outlook 2004.

[1] 1 = Company and plant level predominant; 2 = Combination of industry and company/plant level, with an important share of employees covered by company bargains; 3 = Industry-level predominant; 4 = Predominantly industrial bargaining, but also recurrent central-level agreements; 5 = Central-level agreements of overriding importance.

[2] 1 = Fragmented company/plant bargaining, little or no co-ordination by upper-level associations; 2 = Fragmented industry and company-level bargaining, with little or no pattern-setting; 3 = Industry-level bargaining with irregular pattern-setting and moderate co-ordination among major bargaining actors; 4 = *a)* informal co-ordination of industry and firm-level bargaining by (multiple) peak associations, *b)* co-ordinated bargaining by peak confederations, including government-sponsored negotiations (tripartite agreements, social pacts), or government imposition of wage schedules, *c)* regular pattern-setting coupled with high union concentration and/or bargaining co-ordination by large firms, *d)* government wage arbitration; 5 = *a)* informal co-ordination of industry-level bargaining by an encompassing union confederation, *b)* co-ordinated bargaining by peak confederations or government imposition of a wage schedule/freeze, with a peace obligation.

Table 14. Spending on active labour market policies.

	Active spending (as % of GDP)		Active spending per unemployed person (% of GDP per capita)	
	1994	2002	1994	2002
Czech R	0.15	0.17	7.20	4.67
Hungary	0.61	0.52	13.98	22.18
Poland	0.45	0.13[1]	7.08	1.45[1]
Slovak R	0.51	0.46	8.14	5.05
Big CEECs	***0.43***	***0.38***	***9.10***	***10.63***
Belgium	1.33	1.25	33.53	42.97
France	1.27	1.25	23.87	31.92
Germany	1.33	1.18	32.52	28.72
Italy	1.36	0.57	30.69	15.10
Netherlands	1.50	1.85	47.15	114.33
United Kingdom	0.53	0.37	11.40	15.11
EU6	***1.19***	***1.08***	***29.69***	***41.36***
All	***0.85***	***0.85***	***20.54***	***31.12***

Note: [1] – the figures exclude the spending on public employment service and administration.

Source: OECD (2006) Employment Outlook.

Table 15. Net Replacement Rates for three family types, at 100% APW[1] and duration of benefits.

	No children	2 children		Duration in months
	Single person	One-earner married couple	Two-earner married couple	
Czech R	50	61	74	6
Hungary	43	52	70	9
Poland	52	54	68	18
Slovak R	64	57	83	9
Big CEECs	***52.3***	***56.0***	***73.8***	
Belgium	63	59	74	unlimited
France	73	77	84	30
Germany	61	77	91	12
Italy	54	62	79	6
Netherlands	71	80	83	18
United Kingdom	45	65	65	6
EU6	***61.2***	***70.0***	***79.3***	
All	***57.6***	***64.4***	***77.1***	

Notes: [1] – income of average production worker.

Source: OECD Benefits and Wages, www.oecd.org/els/social/workincentives .

Table 16. Average and marginal tax rates in the Big CEECs and EU6, 2005.

	Average rate, 100% of APW		Marginal rate, 100% of APW	
	No children	2 children	No children	2 children
	Single person	Married couple	Single person	Married couple
Czech R	43.8	39	48.1	48.1
Hungary	50.5	41.1	77.2	77.2
Poland	43.6	43.1	45.8	45.8
Slovak R	38.3	31.7	44.4	43.8
Big CEECs	***44.1***	***38.7***	***53.9***	***53.7***
Belgium	55.4	48.2	66.4	66.4
France	50.1	42.5	55.8	52
Germany	51.8	44.8	65.1	62.3
Italy	45.4	40.9	52.7	52.7
Netherlands	38.6	36.1	51	51
United Kingdom	33.5	28.2	40.6	40.6
EU6	***45.8***	***40.1***	***55.3***	***54.2***
All	***45.1***	***39.6***	***54.7***	***54.0***

Source: OECD Taxing Wages 2000-2005 database.

Table 17. Overview of labour market institutions in the Big CEECs and EU6.

	Employ-ment protection legislation	Trade union density and coverage	Wage bargaing centralisa-tion and coordina-tion	Active labour market policies	Generosity of unemploy-ment benefit system	Tax on wages	Average
Czech R	9.7	6.6	4.7	11.1	6.4	9.3	8.0
Hungary	7.1	7.7	4.7	10.4	6.7	12.7	8.2
Poland	8.1	6.9	4.7	11.2	9.5	9.2	8.3
Slovak R	10.9	10.4	9.3	11.1	7.7	8.2	9.6
Belgium	11.2	16.2	17.1	9.2	22.2	12.2	14.7
France	15.3	10.8	9.3	9.8	14.5	10.4	11.7
Germany	12.0	10.4	16.1	9.6	9.2	11.6	11.5
Italy	11.7	12.6	13.4	10.1	6.6	9.9	10.7
Netherlands	10.7	11.2	16.1	6.7	11.0	9.1	10.8
United Kingdom	3.3	7.0	4.7	10.7	6.1	7.4	6.5

Note: Scale runs from 0 to 100 with the increasing positive effect on labour market flexibility.

Table 18. Wage equations, dependent variable $\Delta(w_t - pc_{t-1})$.

	Big CEECs	EU6	All countries
Const.	-0.0173	-0.6390**	-0.0096
	(0.0539)	(0.1922)	(0.0229)
$\Delta\Delta pc_t$	0.8385**	0.4842**	0.8111**
	(0.1524)	(0.1326)	(0.1039)
$\Delta p_t - \Delta pc_t$	0.4378	0.2146	0.4555*
	(0.3162)	(0.1884)	(0.2099)
Δz_t	1.2207**	0.5017**	0.8946**
	(0.3616)	(0.1104)	(0.1678)
$w_{t-1}-pc_{t-1}-z_{t-1}$	-0.0129	-0.1438**	-0.0118*
	(0.0119)	(0.0405)	(0.0048)
u_t:			
Czech Republic	-0.6940*		-0.6103**
	(0.3014)		(0.1678)
Hungary	-1.0467**		-0.9418**
	(0.2877)		(0.1579)
Poland	-0.4335*		-0.3660**
	(0.1900)		(0.0834)
Slovak Republic	0.1382		0.1477
	(0.4693)		(0.2261)
Belgium		-0.4638**	-0.5739**
		(0.0795)	(0.1396)
France		-0.3848**	-0.4897**
		(0.0657)	(0.1102)
Germany		-0.5016**	-0.6953**
		(0.1043)	(0.1537)
Italy		-0.4358**	-0.5248**
		(0.0700)	(0.1132)
Netherlands		-0.6998**	-0.9172**
		(0.1261)	(0.2217)
U.K.		-0.7171**	-0.6836**
		(0.1350)	(0.1654)
Observations	43	72	127
Adj. R^2	0.4094	0.6857	0.4658
DW	2.0220	2.1396	1.9751

Notes: Standard errors in brackets, * and ** statistically significant at 95 and 99 per cent respectively.